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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,239	11/28/2000	Manabu Ueda	107980	5913

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EXAMINER
BELL, MELTIN

ART UNIT	PAPER NUMBER
2121	5

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/723,239	UEDA ET AL.	
	Examin r	Art Unit	
	Meltin Bell	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the corresp ndenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-37 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

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EXAMINER'S DETAILED OFFICE ACTION

This action is responsive to application **09/723,239** filed **November 28, 2000**.

Claims 1-37 have been examined.

Priority

1. Applicant is advised of possible benefits under 35 U.S.C. 119(a)-(d), wherein an application for patent filed in the United States may be entitled to the benefit of the filing date of a prior application filed in a foreign country.

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed January 5, 2001, fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because of issues with the documents listed. The date of publication supplied must include at least the month and year of publication. The documents by *Jacobson et. al.* and *Okabe et. al.* do not have this information.

The information disclosure statement filed January 5, 2001, also fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the

relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language.

It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Drawings

4. The drawings are objected to because:

The Draftsperson's reasons given on PTO-948.

The notation used for indicating reference numerals in figures from page 44 to 46 is inconsistent with the drawings. The parentheses surrounding reference numerals should be added to Figure 19, for example, or removed from the specification.

Reference numerals are missing on Figures 1-12, 14-18 and 20-22.

Figure 10 should label END CONDITION location as in Figure 11.

Figure 15 doesn't mention activity as in the Brief Description of Drawings.

Figure 21 on 25/31 has CLASS typo in Abstract-Concrete Relationship Classification Superordinate Class ID List.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

There are no line numbers in the specification.

The attempt to incorporate subject matter into this application by reference to 5 through 10 on pages 4-5 is improper because the Japanese to English translations of the references are incomplete.

Use of the 'beyond fields' phrase starting on the first paragraph of page 1 is unclear as is the entire third paragraph on page 3.

The correct month and/or year of references 1 and 2 on page 3 should be included. References 1 and 2 were published in November and May, respectively, of 1993 as given on the 1/5/01 Information Disclosure Statement.

Reference 11 was published in October 1998.

The 'beyond the field dependence' phrase on the second paragraph of page 8 is unclear. Perhaps 'across field differences' should be substituted.

The first sentence of the second paragraph on page 12 is unnecessary.

In the last sentence of the third paragraph on page 13 'display appropriate' might read better as 'an appropriate display'.

The reason for using 'from three X three' instead of ' from nine' in the fourth paragraph of page 18 is unclear as is the meaning of the entire paragraph.

The figure being referred to in the first sentence of the second paragraph on page 50 should be identified.

In the first sentence of paragraph four on page 50 'selecting setting or edit' doesn't agree with Figure 24 (213). It should be replaced with 'selecting design or creation'.

In the first sentence of paragraph two on page 51 'setting' should be replaced with 'design'.

'Print processing', and 'information processing system' are not exampled in Figure 26 as implied in the second sentence of paragraph three on page 52. 'Computer processing', 'environmental test' and 'material processing' are what is shown in Figure 26. If paragraph three on page 53 is meant to address the seemingly erroneous implication, this explanation should start in the first sentence of paragraph 3 on page 52 to avoid misleading the reader.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3 and 36-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Support for this 35 U.S.C. 112, first paragraph rejections comes from MPEP 2164.07(I)(A):

As noted in *In re Fouche*, 439 F.2d 1237, 169 USPQ 429 (CCPA 1971), if "compositions are in fact useless, appellant's specification cannot have taught how to use them." 439 F.2d at 1243, 169 USPQ at 434. The examiner should make both rejections (i.e., a rejection under 35 U.S.C. 112, first paragraph and a rejection under 35 U.S.C. 101) where the subject matter of a claim has been shown to be nonuseful or inoperative. The 35 U.S.C. 112, first paragraph, rejection should indicate that because the invention as claimed does not have utility, a person skilled in the art would not be able to use the invention as claimed, and as such, the claim is defective under 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The invention as disclosed in claims 1-37 are directed to non-statutory subject matter. Claims 1-37 are rejected under 35 U.S.C. 101 because the claimed

invention is not supported by either a credible asserted utility or a well established utility.

Claims 1-3 and 36-37 are not claimed to be practiced on a computer nor are they stored in a computer readable medium. Claims 15, 26-29 and 32-34 are not claimed to be stored in a computer readable medium. Claims 30-31 are not claimed to be practiced on a computer. Because the claims are in the technological arts and are not claimed to be practiced on a computer and/or stored on a computer readable medium, they are not limited to practical applications in the technological arts. Specifically, the claims are methods disclosing ideas abstractly from any particular practical application, such as a program running on a computer and stored in a computer readable medium or memory. On that basis alone, those claims are clearly nonstatutory.

Regardless of whether the claims are in the technological arts, none of them are limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 USC 101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

> "taking several abstract ideas and manipulating them together adds nothing to the basic equation."

AT&T v. Excel at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "process description", "process classification", "process knowledge", "process analysis", "process design", "process display" and "classification structure display" are just such abstract ideas. Examiner bases his position upon guidance provided by the Federal Circuit *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street's* holding that:

"Today we hold that the *transformation of data, representing* ***discrete dollar amounts***, *by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result" – *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.*" (emphasis added) *State Street Bank* at 1601.

True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory but the court clearly *did not* go so far as to make business methods *per se statutory*. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, **representing discrete dollar amounts**, by a machine through a series of mathematical calculations into a final share price..."

The court was being very specific.

Additionally, the court was also careful to specify that the useful, concrete and tangible result it found was "a final share price momentarily fixed for recording purposes and even accepted and **relied upon by regulatory authorities and in subsequent trades**."

Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

Furthermore, in the case In re Warmerdam, the Federal Circuit held that:

"**the dispositive issue** for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond **simply manipulating 'abstract ideas' or 'natural phenomena'**. ...As the Supreme Court has made clear, '[a]n idea of itself is not patentable... taking several abstract ideas and manipulating them together adds nothing to the basic equation." In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

In the present case, the Examiner finds that Applicant manipulated a set of abstract "epistemological grounds" for describing a process, classifying a process, retaining knowledge about a process, retrieving knowledge about a process, analyzing a process, designing a new process from a retrieved process description, displaying a process and displaying a classification structure in the **abstract**. Under Warmerdam, the result of such manipulations is not statutory.

Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of "useful, concrete, and tangible" the Federal Circuit

applied in *State Street Bank*. Therefore, under *State Street Bank*, this could not be a "useful, concrete and tangible result". There is only manipulation of abstract ideas.

The Federal Circuit validated the use of Warmerdam in its more recent AT&T Corp. v. Excel Communications, Inc. decision. The court noted that:

> Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. *** The court found that the claimed process did nothing more than **manipulate basic mathematical constructs** and concluded that "*taking several abstract ideas and manipulating them together adds nothing to the basic equation*"; hence, the court held that the claims were properly rejected under Section 101.... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under Section 101." (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

The fact that the invention is merely the manipulation of abstract ideas is indisputable. The objects referred to by Applicant's phrase "epistemological ground" and "dependence relationship" are simply a constructs in the abstract. Consequently, the necessary conclusion under *AT&T, State Street* and *Warmerdam*, is straightforward and clear. The claims take several abstract ideas (i.e., "epistemological ground" in the abstract) and manipulate them together adding nothing to the basic equation. Claims 1-37 are rejected under 35 USC 101.

Regarding the "computer" and "storage" recitals of claims 15 and 26-34, the invention is still found to be nonstatutory. Any other finding would be at variance with current case law. Specifically, the Federal Circuit held in *AT&T v. Excel*, 50 USPQ2d 1447 (Fed. Cir. 1999) held that:

"Whether stated implicitly or explicitly, we consider the scope of Section 101 to be **the same regardless of the form** -- machine or process -- in which a particular claim is drafted." *AT&T v. Excel*, 50 USPQ2d 1447, 1452 citing *In re Alappat*, 33 F.3d at 1581, 31 USPQ2d at 1589 (Rader, J., concurring)

Examiner considers the scope of Section 101 to be the same regardless of whether Applicant claims a "process", "machine", or "product of manufacture". While the "computer" and "storage" recitals of claims 15 and 26-34 make the claims drawn to "products of manufacture", they are insufficient by themselves to limit the claims to statutory subject matter. Examiner's position is clearly consistent with *Alappat* and *AT&T* and is implicitly consistent with *Warmerdam* and *State Street*. Accordingly, claims 15, 26-34 and their dependents 16-21, 25 and 35 are properly rejected along with claims 1-3 and 36-37 and their dependents 4-14 and 22-24.

Also, to Constitutionally interpret the word "process", the Supreme Court has held that:

"*** A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state of thing. *** The process requires that *certain things* should be done with *certain substances*, and in a *certain order*, but the tools to be used in doing this may be of secondary consequence." (emphasis added)

Diamond, Commissioner of Patents and Trademarks v. Diehr and Lutton, 209 USPQ 1, 6 (1981) quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1876).

This Constitutional interpretation of the word "process" is a long-standing one that the Supreme Court requires to be applied in interpreting 35 U.S.C. 101. *Diamond v. Diehr* at 6. Consequently, the use of that interpretation is *Constitutionally required* when we interpret the Federal Court's standard that a "new and useful process" is one that produces a "useful, concrete and tangible result". Cf. *State Street Bank and Trust Co. v. Signature Financial Group, Inc.*, 47 USPQ2d 1596, 1600-1601 (Fed. Cir. 1998).

Applicant discloses no "certain substances" that have been "transformed or reduced" in that Applicant's claims disclose no *specific* computer-readable medium, no manipulation of *specific* data representing physical objects or activities (pre-computer activity), nor do they disclose any *specific* independent physical acts being performed by the invention (post-computer activity). Implementation or utilization of the claimed invention does not include the use of a computer, processor, computer readable medium or memory for storing and executing such programs. The claims merely manipulate abstract ideas in general without limitation to a practical application where "certain substances" are transformed or reduced.

On this basis, claims 1-3 and 36-37 are rejected under 35 U.S.C. 101. Claims 1-3 and 36-37 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a credible

asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 and 17-37 are rejected under 35 U.S.C. 102(b) as being anticipated by *Malone et. al.* U.S. Patent Number 5,819,270 (October 6, 1998).

Regarding claim 1

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook

and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

Regarding claim 2

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are

stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

Regarding claim 3

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- constraints affecting dependence relationships (column 6, line 66 – column 7 line 7, "producer-consumer relationships 140 are often composed of at least three other kinds of dependencies: prerequisite constraints 142 (an item must be produced before it can be used), transfer constraints 144 (an item must be transferred from the place it is produced to the place it is used), and usability constraints 146, (an item that is produced should be "usable" by the activity that uses it)"

Regarding claim 4

Malone et. al. teaches,

- displaying process specialization and process decomposition in Figure 1

- displaying process link, dependency management, activity attributes and tradeoff information in Figures 16-19, respectively

Regarding claim 5

Malone et. al. teaches,

- displaying process specialization and process decomposition in Figure 1

- displaying process link, dependency management, activity attributes and tradeoff information in Figures 16-19, respectively

Regarding claim 6

Malone et. al. teaches,

- displaying classifications of tradeoffs, dependencies, activities and object hierarchies in Figures 4-5, 8 and 15, respectively

Regarding claim 7

Malone et. al. teaches,

- displaying classifications of tradeoffs, dependencies, activities and object hierarchies in Figures 4-5, 8 and 15, respectively

Regarding claim 8

Malone et. al. teaches,

- displaying classifications of tradeoffs, dependencies, activities and object hierarchies in Figures 4-5, 8 and 15, respectively

Regarding claim 9

Malone et. al. teaches,

- displaying process specialization and process decomposition in Figure 1

- displaying classifications of tradeoffs, dependencies, activities and object hierarchies in Figures 4-5, 8 and 15, respectively

- displaying process link, dependency management, activity attributes and tradeoff information in Figures 16-19, respectively

Regarding claim 10

Malone et. al. teaches,

- displaying process specialization and process decomposition in Figure 1
- displaying classifications of tradeoffs, dependencies, activities and object hierarchies in Figures 4-5, 8 and 15, respectively
- displaying process link, dependency management, activity attributes and tradeoff information in Figures 16-19, respectively

Regarding claim 11

Malone et. al. teaches,

- displaying process specialization and process decomposition in Figure 1
- displaying classifications of tradeoffs, dependencies, activities and object hierarchies in Figures 4-5, 8 and 15, respectively
- displaying process link, dependency management, activity attributes and tradeoff information in Figures 16-19, respectively

Regarding claim 12

Malone et. al. teaches,

- inheritance for getting default values (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent

objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 13

Malone et. al. teaches,

- inheritance for getting default values (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 14

Malone et. al. teaches,

- inheritance for getting default values (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 15

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24 and column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- constraints affecting dependence relationships (column 6, line 66 – column 7 line 7, "producer-consumer relationships 140 are often composed of at least three other kinds of dependencies: prerequisite constraints 142 (an item must be produced before it can be used), transfer constraints 144 (an item must be transferred from the place it is produced to the place it is used), and usability constraints 146, (an item that is produced should be "usable" by the activity that uses it)"

Regarding claim 17

Malone et. al. teaches,

- displaying process dependencies and coordinations (column 12, line 65 through column 13, line 5, "It is also possible, at the user's option, to have dependency links displayed. The references in the link list to links and paths are traversed to identify, out of the displayed activities, which activities have dependencies. Furthermore, some information concerning the coordination activity associated with each link can also be displayed such as shown in FIG. 16")

Regarding claim 18

Malone et. al. teaches,

- resources as objects with related and activities (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 19

Malone et. al. teaches,

- resources as objects with related and sometimes dependent activities (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

- displaying process dependencies and coordinations (column 12, line 65 through column 13, line 5, "It is also possible, at the user's option, to have dependency links displayed. The references in the link list to links and paths are traversed to identify, out of the displayed activities, which activities have dependencies. Furthermore, some information concerning the coordination activity associated with each link can also be displayed such as shown in FIG. 16")

Regarding claim 20

Malone et. al. teaches,

- resources as objects with related and sometimes dependent activities (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")
- displaying process dependencies and coordinations (column 12, line 65 through column 13, line 5, "It is also possible, at the user's option, to have dependency links displayed. The references in the link list to links and paths are traversed to identify, out of the displayed activities, which activities have dependencies. Furthermore, some information concerning the coordination activity associated with each link can also be displayed such as shown in FIG. 16")
- comparing multiple coordinations (column 7, lines 48-53, "if there are several coordination processes for managing a given dependency, then they all can be generated automatically as possibilities for managing that dependency in any new process to be considered")

Regarding claim 21

Malone et. al. teaches,

- objects as resources used in the description of other process resources (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit

the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 22

Malone et. al. teaches,

- objects as resources used in the description of other process resources (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 23

Malone et. al. teaches,

- objects as resources used in the description of other process resources (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 24

Malone et. al. teaches,

- objects as resources used in the description of other process resources (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 25

Malone et. al. teaches,

- inheritance for getting default values (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 26

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and

displaying of decompositions and specializations are provided upon user selection.")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- classifying components of a process description (column 2, lines 4-9, "computer representations of objects ... These systems rely on the concept of specialization which involves classifying specific objects ... These representational paradigms for computer processes...")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 27

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- classifying components of a process description (column 2, lines 4-9, "computer representations of objects ... These systems rely on the concept of specialization which involves classifying specific objects ... These representational paradigms for computer processes...")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also

be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 28

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics.

Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- classifying components of a process description (column 2, lines 4-9, "computer representations of objects ... These systems rely on the concept of specialization which involves classifying specific objects ... These representational paradigms for computer processes...")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 29

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- classifying components of a process description (column 2, lines 4-9, "computer representations of objects ... These systems rely on the concept of specialization which involves classifying specific objects ... These representational paradigms for computer processes...")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 30

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are

stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- classifying components of a process description (column 2, lines 4-9, "computer representations of objects ... These systems rely on the concept of specialization which involves classifying specific objects ... These representational paradigms for computer processes...")

- creating new process descriptions from existing ones with minimal knowledge of the existing process (column 7, lines 46-56, "This process representation also helps generate new possibilities for coordination processes ... their generation requires no specific knowledge of the process other than the type of dependencies the process involves")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 31

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- creating new process descriptions from existing ones with minimal knowledge of the existing process (column 7, lines 46-56, "This process representation also helps generate new possibilities for coordination processes ... their generation

requires no specific knowledge of the process other than the type of dependencies the process involves")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 32

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-

defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance,

to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 33

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other

information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 34

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are

stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of process activities (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 35

Malone et. al. teaches,

- inheritance for correcting or expanding found or retrieved processes (column 11, lines 18-27, "Each of the specific objects 224, 226 and 228 inherit the slots and values from their parent objects which are respectively subactivities 191, attributes 215, and link lists 195 ... but the name 180 and the bundle 188 slots have changed values to indicate that this is a bundle and defines, via the name 180, what the bundle indicates")

Regarding claim 36

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are

accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- relationships between process activities, dependencies and resources (Figures 1-24column 2, line 41 – column 3, line 35).

- identifiers, resources and attributes of a process activity (column 11, lines11-15, "A specific activity is thus a subclass of an activity 181 ... the activity "sell product," given an identifier "ACT1234" ... inherits all the characteristics of a generic activity 181, and refers to subclasses of the objects referred to by the generic activity 181")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Regarding claim 37

Malone et. al. teaches,

- a computerized handbook of processes (Summary of the Invention, column 2, lines 26-41, "a memory in which representations of a plurality of processes are stored...a display system including a display. Specializations of a process are accessed from the memory and displayed on the display...The accessing and displaying of decompositions and specializations are provided upon user selection.")

- retrieval and analysis of processes by name (column 8, lines 26-45, "A suitable computerized handbook should ... allow various users to query the handbook and analyze and identify processes ... It should also have the ability to view user-defined attributes, date modified, etc. It should also be able to navigate to any random process by various search criteria, such as process name. If a unique

name is assigned to each process, one should also be able to view all specializations of a process, or to a specified depth. For example one could also view the decomposition of a process to a given depth, or conversely the parents of a process to a given height from which the process inherits its characteristics. Finally, one could also view where a process is used as a subtask. Other information, e.g., dependencies, may be retrieved implicitly via the above operations, or else via additional operations")

- classifying components of a process description (column 2, lines 4-9, "computer representations of objects ... These systems rely on the concept of specialization which involves classifying specific objects ... These representational paradigms for computer processes...")

- retaining, editing and managing process descriptions (column 8, lines 44-55, "Editing functionality of the system is also important. A user should be able to add, modify, delete and reorganize processes including their attributes, specializations, decompositions, and dependencies ... The system should also be able to propagate, using inheritance, all attributes of higher levels to the new process, to allow for selection of multiple parents, and thus multiple inheritance, to allow aggregate specialization of process, and to combine processes, modify dependencies, reassign processes for managing dependencies")

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Malone et. al.* as applied to claims 1-15 and 17-37 above, and further in view of *Orfali et. al.*

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Regarding claim 16

Malone et. al. teaches resources as objects inheriting activity, attribute and dependence values from parents (column 11, lines 18-27), but doesn't explicitly teach classifying dependences into six types:

1. resource distribution
2. resource binding
3. resource transfer
4. resource binding and distribution
5. resource transfer and distribution and
6. resource binding and transfer

However, *Orfali et. al.* teaches,

- supercomponents with sixteen types of facilities that can be associated with resources called entities capable of interfacing with other components at a high level of abstraction (page 36, paragraph 2 - page 37, paragraph 9, "components need to provide the type of facilities that you associate with independent networked entities...must provide an interface to let you configure its properties and scripts ... the interface must be self-describing and support late binding ... a component must be able to form dynamic or permanent associations with other components")

- a multiplicity of container relationships for referring to other resources (page 154, last paragraph, "ODBMSs allow individual objects to participate in a

multiplicity of containment relationships, creating multiple views of the same objects. Objects can maintain pointers to other objects in a very recursive manner; there's no limit to the different container relationships that you can create. A container typically maintains references to object IDs as opposed to the objects themselves-it's a form of linking")

Motivation – The portions of the claimed method for describing dependence relationships based on resources handled between activities and using one of six classification types in describing resource and activity dependency support the ease of use concern in *Orfali et. al.'s* context for distributed objects (page 37, paragraph 6, "a component must provide a limited number of operations to encourage use and reuse"). The Applicant's use of six types versus the sixteen of supercomponents allows for a good level of quality and functionality in describing dependencies with less complexity. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention , to combine *Malone et. al.* with *Orfali et. al.* to obtain the invention as specified in claim 16.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- *R. Orfali, D. Harkey, J. Edwards,* "The Essential Distributed Objects Survival Guide", 1996.

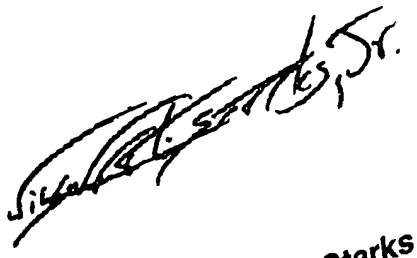
- *T.W. Malone, K. Crowston, Jintae Lee, B. Pentland, C. Dellarocas, G. Wyner, J. Quimby, C.S. Osborn, A. Bernstein, G. Herman, M. Klein, and E. O'Donnell,* "Tools for inventing organizations: toward a handbook of organizational processes", Management Science 45(3), March 1999, pp. 425-443.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meltin Bell whose telephone number is 703-305-0362. The examiner can normally be reached on Mon - Fri 7:30 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri can be reached on 703-305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MB



Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121